

HJR 153 FEASIBILITY STUDY

GENERIC QUESTIONS

Conectiv Power Delivery Response. Response applies to Electric Distribution System only. Conectiv recommends that study group reference Out of Sight, Out of Mind? published by Edison Electric Institute, January 2004 and written by Brad Johnson.

1. Please identify the major issues/questions that should be addressed by the HJR153 feasibility study.

- Costs and cost recovery
- Financial responsibility
- Rights-of-Way, payment to homeowner
- Utility participation – all utilities and coordination between utilities
- Reason for undergrounding
- Maintenance activities and access
- System expandability
- Location of underground system & equipment
- Flood plain regulations, wetland construction, other environmental issues
- Federal, State & local government regulations
- Environmental impact
- Reliability impact
- Direct buried or manhole & conduit system
- Impact and cost to homeowner, what work is required to be performed by homeowner?
- System VAR support, where do you locate line capacitors and other support equipment?
- Automated or SCADA connected equipment requires an external antenna
- System protection and switch points

2. Please describe the potential benefits to the public and utility companies associated with the undergrounding of overhead distribution lines.

According to a recent study published by the Edison Electric Institute in January 2004, the major benefit of undergrounding electric lines is “improved aesthetics”. Other notable benefits include reduced tree trimming costs, reduced motor vehicle pole accidents, reduced line losses, and potential reduced outages during severe weather conditions.

3. Please describe the potential negative impacts on the public and utility companies associated with the undergrounding of overhead distribution lines.

The construction phase, although of temporary duration, is very disruptive to the area. Underground electric lines should be placed on private property and not in the state road rights-of-way; this helps protect the utility from future costly road widening projects. This requires private rights-of-way agreements for the underground cable, conduits, manholes, etc. as well as the pad mounted equipment and other surface mounted equipment. If the area is converted totally to underground, every customer must re-wire their service entrance equipment to accept underground service.

The cost can be about 10 times what it costs to install overhead power lines.

When an outage does occur, the duration tends to be longer than overhead and involve more customers. A typical underground system would have fewer fuses, reclosers, and switches so any outage would involve a larger portion of the circuit, take longer to locate, and longer to repair.

4. Please describe in detail the potential obstacles associated with the implementation of a program to relocate overhead distribution lines to underground (for example, statutory, regulatory, technological, economic, safety, and physical obstacles).

Cost – up to 10 times the cost of overhead power lines. A cost recovery or cost sharing process must be established to allow the utilities to recover all associated cost and rate of return. This cost will ultimately be paid for by the customer therefore undergrounding must be accepted and supported by the customer.

Rights-of-Way - - will the utility have the right to acquire the necessary easement at no cost and without delay to the project.

Location of pad mounted equipment

Future system expansion limited or very costly

All communication utilities, state highway communication cables, etc. must also go underground or poles & overhead conductors will remain.

Street lights will be removed. Replacement ornamental type street light poles are costly and partially defeat the aesthetic benefits of undergrounding the system.

In suburban or urban areas generally the only electric equipment that goes totally underground is the span of wire from pole to pole. Many poles must remain for street lights, traffic control lights, etc.. In addition, pad mounted equipment must be installed for switching, transformation, etc. If the overhead distribution line is underbuilt on transmission poles then the poles and transmission conductors will remain in place. You essentially end up spending a large sum of money, but do not totally achieve your goal.

5. Please describe the process for identifying and securing right-of-way easements for the relocation of existing overhead distribution lines to underground. What property rights issues would be raised as a result?

Utility needs to acquire private rights-of-way from every property owner along the circuit's path for installation, maintenance, replacement, and expansion of the underground electric distribution system. A minimum of a ten foot wide easement is required for the electric system plus space for pad mounted equipment. For example, pad mounted switchgear can be 7' wide by 6' long by 6' tall and requires a clear working space of 8' on at least two sides. A typical manhole is 17' long by 7' wide by 10' deep, which is totally underground. Road crossing easements/permits must also be obtained. This process requires extensive time to negotiate with the owner and research of the property records to determine original ownership. Any large undergrounding process would require a revised process to acquire easements or the cost and time would be prohibitive.

6. In order of importance, list the criteria that should be considered to determine whether the implementation of a program to relocate overhead distribution lines to underground is desirable.

Cost and cost recovery

Private property right-of-way

Maintenance practices and cost

Benefits to obtain – what lines should be considered for undergrounding and what is the selection criteria; how do you determine which lines to underground first?

7. In order of preference, describe the potential options for funding the relocation of overhead distribution lines to underground and explain the basis of your recommendation.

The electric utility should not be required to bear the cost burden of undergrounding an existing overhead electric system without acceptable cost recovery mechanism in place. This would include a process for automatic rate adjustment, possible in the form of a rate added, annually for all projects approved by the Commission. In Conectiv's case, we have less than 25,000 customers in the State of Virginia. At an estimated cost of \$1 million per mile to underground an existing overhead system that would be \$40 per customer per mile. The cost to electric customers may quickly become a burden. A rate added is a method that allows all parties to understand the true cost of the project and provides a method for review on annual bases.

8. Should one or more pilot programs be conducted to determine more precisely the benefits, costs and obstacles associated with the implementation of a program to relocate overhead distribution lines to underground? If pilot programs should be conducted, how could and should the pilot programs be funded?

A pilot program may be beneficial to identify issues and fine tune the cost estimates. However, most utilities already have experience with installing underground systems in areas of customer growth.

9. Considering the costs, benefits and obstacles associated with the implementation of an undergrounding program, should the General Assembly require utilities to place all or a portion of existing and/or new overhead distribution lines underground? Alternatively, should such decisions be left to local government? Please explain your answer.

Conectiv supports a program to install new distribution lines underground within new residential subdivisions. The technology and work practices are well established for new residential undergrounding and the cost differential compared to overhead is reasonable.

10. What obstacles, if any, currently prevent a local government from enacting an ordinance establishing all or a part of the locality as an area in which: (a) existing overhead utility distribution lines must be relocated underground over some period of time; and/or (b) all new utility distribution lines must be located underground?

This activity is controlled by the Commission. If a local government enacts this type of ordinance they would bare the full cost.

11. For the specific purpose of funding the undergrounding of existing overhead utility distribution lines, what obstacles, if any, currently prevent a local government from levying a special tax on the residents and businesses of an area within the locality in which the local government has enacted an ordinance requiring the undergrounding of utility distribution lines? Would such a special tax assessment require specific new authorization from the General Assembly?

Special tax districts would be a method to allow local governments to pay for the cost of undergrounding.

12. Interested parties are invited also to address all other legal and policy issues they believe relevant to this investigation.

None

13. Please indicate below your desired level of participation in the feasibility study.

☐ *Placed on the distribution list for all correspondence.*

☒ *Considered as an active participant in the feasibility study.* If you wish to be considered as an active participant, please complete the following:

Field of expertise _____ Engineering/Design/Constructon of
underground facilities _____

Organization _____ Conective _____

14. If you are interested in participating as an active participant, would you be willing to serve also as a member of a subgroup to identify, research, and analyze specific issues and provide written summaries of specific topics of study?

☒ *Yes*

☐ *No*

15. Please provide the following contact information:

Name _____ William Gausman

Title _____ VP Asset Management

Mailing Address 701 Ninth St., NW
Washington, DC 20068
Room 8200

Telephone

____ 202-872-3227 _____ Fax ____ 202-872-3302 _____

Email Address

_____ wmgausman@pepco.com _____